REMARKS

Reconsideration of the above-identified patent application is respectfully requested.

Claims 1-52 are pending in this application. The Examiner rejected claim 1 under 35 U.S.C. §112 as being indefinite. The Examiner also rejected claims 1-11, 13-28, 30-42, and 44-52 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Serial No. 6,678,877 to Perry et al. (hereinafter Perry) in view of U.S. Patent Serial No. 6,496,957 to Kumagai (hereinafter Kumagai). The Examiner rejected claims 12, 29, and 43 under 35 U.S.C. §103(a) as being unpatentable over Perry in view of Kumagai and further in view of U.S. Patent Application Publication No. 2004/0208354 to Vilella (hereinafter Vilella). The Examiner also provisionally rejected claims 1-52 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 20-52 of co-pending U.S. Patent Application Serial No. 10/780,990 (now U.S. Patent No. 7,240,319). The Examiner objected to claim 48 due to informalities. Claim 48 has been amended to correct these informalities.

Double Patenting Rejections

The Examiner rejected claims 1-52 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 20-52 of co-pending U.S. Patent Application Serial No. 10/780,990 (now U.S. Patent No. 7,240,319). A terminal disclaimer is filed concurrently herewith to overcome this rejection.

§112 Rejection

The Examiner rejected claim 1 under U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention for reciting "the client machine" without sufficient antecedent basis. Claim 1 has been amended to remove this phrase. As such, the §112 rejection of claim 1 is overcome.

Independent Claim 1

The Examiner also rejected independent claim 1 as being unpatentable over Perry in view of Kumagai. In support of this rejection, the Examiner concedes that "Perry does not specifically disclose that the assembly cost data comprises a processing cost." (Office Action dated 7/24/2007, page 14, second paragraph). The Examiner relies on Kumagai to overcome this deficiency of Perry. In an attempt to establish a case of obviousness, the Examiner states:

> It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Perry and Kumai (sic) because Perry and Kumagai are directed to the design and manufacture of electronic circuitry. Perry is also directed to the design of electronic circuitry (PCB) where the design choices are sent to a manufacturer for assembly of the final designed product [Perry, col. 15, lines 43-53]. Therefore, adding the processing cost to the assembly cost data of Perry, and indicating the manufacturing capability of an electronic assembly manufacturer would improve the Perry's system by providing a better understanding to a designer as to the cost of manufacture of a design that is created by the design, thereby allowing the designer to make design choices before the manufacture of the designed product.
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> (Office Action dated 7/24/2007, page 14-15, fourth paragraph).

Applicants respectfully traverse these rejections. Applicants believe the Examiner has failed to establish a prima facie case of obviousness because Perry actually teaches away from the proposed combination. *See KSR v. Teleflex, Inc.*, 127 S.Ct. 1727, 1740 ("[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.").

When conducting an analysis of obviousness, the Examiner is required to consider the prior art "in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention." *W.L. Gore & Assoc. v. Garlock*, 721 F.2d 1540, 1550-51 (Fed. Cir. 1983) (emphasis added). In the instant case, Perry clearly discloses that the circuit board must be self-assembled by

the user or by a third party and, as such, the processing cost of the user's design would be unavailable:

> Returning to FIGS. 22A and 22B, when the user is has (sic) completed reviewing the bill of materials and other information, the user may click on the Order this Kit button 2230 to order the kit. According to one embodiment, the party that would handle the order of a single component would be the manufacturer or distributor of the component. However, the party that handles the "kit" order may be a third party. In response to the order of a kit, the party from whom the kit is ordered places corresponding component orders with the component manufacturers or obtains the parts from a local stock in a warehouse. The process of placing the corresponding component order can be executed automatically upon receipt and approval of a kit order.
>
> If the user selects Order this Kit button 2230, the user will have the ability to receive the components and bare PC board to make the circuit. However, the user may prefer to receive the circuit itself, already assembled. Therefore, the user may alternatively or additionally be presented with an "order built-up board" button (not shown), which, when selected, causes the components, and optionally a PC board, to be ordered and sent to a circuit board assembler. The circuit board assembler assembles the circuit board from the ordered components and delivers the custom-assembled circuit board to the user that placed the order. (Col. 15, ll. 29-52).

As such, the Examiner's purported reasoning for modifying Perry to include features of Kumagai (i.e., " . . . adding the processing cost to the assembly cost data of Perry . . . would improve the Perry's system by providing a better understanding to a designer as to the cost of manufacture of a design") fails the reasoning requirement set forth in *KSR* because such a modification is illogical in view of the explicit teaching set forth in Perry. That is, the Examiner's proposed modification of Perry to include processing costs is illogical because the processing costs are simply irrelevant (in embodiments wherein the circuit is assembled by the user) or unknown (e.g., in those embodiments wherein the circuit is assembled by a third-party). As such, the Examiner has failed to establish a prima facie case of obviousness. Accordingly, for all the reasons provided above, claim 1 is believed to be in condition for allowance. Because claims 2-19 depend from claim 1, these claims are also believed to be in condition for allowance.

Independent Claim 20

The Examiner also rejected independent claim 20 as being unpatentable over Perry in view of Kumagai. Again, the Examiner's purported reasoning for modifying Perry to include features of Kumagai (i.e., " . . . indicating the manufacturing capability of an electronic assembly manufacturer would improve the Perry's system by providing a better understanding to a designer as to the cost of manufacture of a design, thereby allowing the designer to make better design choices before the manufacture of the designed product") fails the reasoning requirement set forth in *KSR* such a modification is illogical in view of the explicit teaching set forth in Perry. That is, the Examiner's proposed modification of Perry to include manufacturing capability data is also illogical because the manufacturing capability is simply irrelevant (in embodiments wherein the circuit is assembled by the user) or unknown (e.g., in those embodiments wherein the circuit is assembled by a third-party). As such, for at least this reason, the Examiner has failed to establish a prima facie case of obviousness.

Even if, for argument's sake, the references could be combined in the manner proposed by the Examiner, the combination does not arrive at the invention of claim 20. Claim 20 recites "retrieving assembly capability data that indicates the manufacturing capability of an electronic assembly manufacturer in response to receiving the user-supplied electronic assembly design data from an assembly capability database." The Examiner argues that such an element is taught in Kumagai (Col. 31, line 51-col. 33, line 55; see Office Action dated 7/24/2007, page 14, third paragraph). However, this section of Kumagai is directed to determining whether a circuit design is in compliance with "know-how" items. A "know-how" item is not synonymous with manufacturing capability data. Kumagai defines "know-how" as follows:

> Wisdom and contrivance that are created from a shop floor, a spot and the actuality are precious resources of manufacture. They should be utilized for design tasks with great regards and attention even if their contacts are not universal or logical. Therefore, by observing a variety of know-how items that is created from the shop floor where the assembly process of mounting electronic

> components onto the circuit board is actually executed, it becomes possible to secure assembly quality and to reduce assembly cost. (col. 31, line 63-col. 32, line 5).

It is clear that "know-how" refers to experience-based ability. Conversely, manufacturing capability refers to the "process capabilities of the manufacturer of the electronic assembly" (see page 11, lines 24-27 of Applicants' application), which are typically dependent upon the abilities or limitations of manufacturing machines. As such, "know-how" items are clearly not synonymous with manufacturing capability data.

Regardless, in order to advance prosecution of the present application, claim 20 has been amended to recite that "the assembly capability data include[es] a range of tolerances within the manufacturing capability of the electronic assembly manufacturer." Neither Perry nor Kumagai teach, disclose, or suggest such an element. As such, for at least the reasons provided above, amended claim 20 is believed to be in condition for allowance. Because claims 21-30 depend from claim 20, these claims are also believed to be in condition for allowance.

Independent Claim 31

The Examiner rejected claim 31 as being unpatentable over Perry in view of Kumagai. Claim 31 has been amended to recite that "the assembly capability data including a range of tolerances within the manufacturing capability of the electronic assembly manufacturer." For at least the reasons provided above in regard to claims 1 and 20, amended claim 31 is believed to be in condition for allowance. Because claims 32-49 depend from claim 31, these claims are also believed to be in condition for allowance.

Independent Claim 50

The Examiner rejected claim 50 as being unpatentable over Perry in view of Kumagai. Claim 50 has been amended to recite that "the assembly capability data including a range of

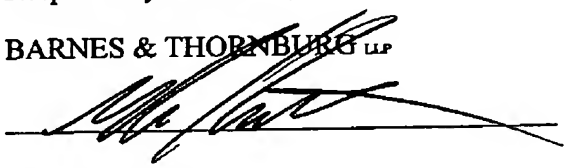
tolerances within the manufacturing capability of the electronic assembly manufacturer." For at least the reasons provided above in regard to claims 1 and 20, amended claim 50 is believed to be in condition for allowance. Because claims 51-52 depend from claim 31, these claims are also believed to be in condition for allowance.

Claims 1, 20, 31, 48, and 50 have been amended. For at least the reasons provided above, amended independent claims 1, 20, 31, and 50 are believed to be in condition for allowance. Because claims 2-19 depend from claim 1, claims 21-30 depend from claim 20, claims 32-49 depend from claim 31, and claims 51 and 52 depend from claim 50, these claims are also believed to be in condition for allowance. Therefore, claims 1-52 are in condition for allowance, and such action is solicited.

It is respectfully requested that this paper be considered as a petition for a one-month extension of time extending the deadline of this response to November 26, 2007. The Commissioner is hereby authorized to charge the fee of $60.00 for this one-month extension of time, and any shortages or overpayments of fees, to the Account of Barnes & Thornburg LLP, Deposit Account No. 10-0435 with reference to file 6890-74182.

Respectfully submitted,

BARNES & THORNBURG LLP



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